

REMARKS

Reconsideration of the application is requested.

Claims 1-4 remain in the application. Claims 1-4 are subject to examination. Claims 1 and 4 have been amended.

In item 1 on pages 4 and 5 of the above-identified final Office Action, claims 1-4 have been rejected as being fully anticipated by European Patent EP 0 760 528 to Stephani et al., which corresponds to U.S. Patent No. 6,455,911, (hereinafter Stephani) under 35 U.S.C. § 102. All references to Stephani are based on the U.S. Patent and not the European Patent.

Applicant has amended claims 1 and 4 of the instant application to more clearly emphasize that the stop zone is indeed a stop zone according to a power semiconductor component and not, as is the case in Stephani, only a junction termination. Therefore, applicant added into claims 1 and 4 that the substrate of the power semiconductor component is doped with doping atoms of a first conductivity type (for example n-doped) and that the stop zone is also provided with the same doping (also n-doped in the preferred exemplary embodiment). Contrary thereto, the emitter is doped opposite the semiconductor base doping, i.e., the

doping of the semiconductor substrate (p-doped in the exemplary embodiment).

Support for the changes to claims 1 and 4 can be found from page 5, line 24 to page 6 line 11 with reference to the n-doping of the semiconductor, the p-doping of the emitter and the n-doping of the stop zone.

Naturally, the respective inverse doping in the individual regions is also possible.

The Examiner states in the above-mentioned Office action that the object of claims 1 to 4 is not new with reference to Stephani.

In this context, in addition to the original remarks with reference to Stephani, we once more emphasize that the junction termination in Stephani is not a stop zone.

In contrast, according to Stephani, it is provided that the doping of the junction termination 4 (p type) is opposite to the semiconductor base doping (n type), the doping of the semiconductor substrate 2 (e.g. which is opposite to that claimed in claims 1 and 4 of the instant application).

Stephani teaches a junction termination 4 that is formed with silicon of an opposite conductivity type than the semiconductor region 2 receiving the depletion zone 21 and is disposed around an active region 3 in or on the surface of the semiconductor region 2 (see from column 5, line 60 to column 6, line 7). For this junction termination 4, a doping substance is provided which has a deep impurity energy level of at least approximately 0.1 eV (100 meV) (see column 6, lines 40-42). Therefore, a p-doping of the junction termination 4 is used for a semiconductor substrate with an n-base doping.

It is thus not even possible according to Stephani to provide the junction termination 4 with the same doping as the semiconductor base material, because the junction termination 4 would otherwise not be able to operate as a junction termination and thus in the manner as described in Stephani.

It can be seen from this manner of doping, as it is now clarified in claim 1 of the instant application, that the junction termination 4 according to Stephani cannot be compared with the stop zone according to the instant application. The characteristics of these respective layers can also thus not be compared with each other, in particular

not in combination with the structure and mode of operation as indicated in claim 1 of the instant application.

In this context we also point out that the amended claims 1 and 4 also disclose that the emitter region is doped opposite to the doping of the stop zone. This is also not disclosed in Stephani. This type of doping, e.g., that the emitter region is doped opposite to the doping of the semiconductor substrate is necessary in order for the emitter to be able to operate as an emitter. For this reason, the region in Stephani cited by the Examiner is not to be considered as an emitter.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 or 4. Claims 1 and 4 are, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 1. In view of the foregoing, reconsideration and allowance of claims 1-4 are solicited.

In the event the Examiner should still find any of the remaining claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable

\*Appl. No. 09/761,240  
Amdt. Dated May 17, 2004  
Reply to Office Action of November 19, 2003

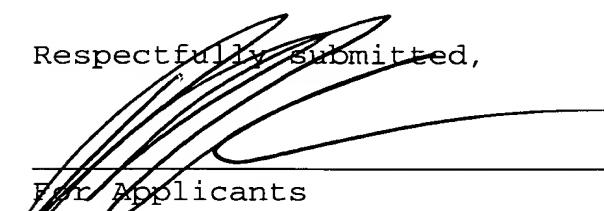
language can be worked out. In the alternative, the entry of the amendment is requested, as it is believed to place the application in better condition for appeal, without requiring extension of the field of search.

Petition for extension is herewith made. The extension fee for response within a period of three months pursuant to Section 1.136(a) in the amount of \$950.00 in accordance with Section 1.17 is enclosed herewith.

If an extension of time is required, petition for extension is herewith made. Any extension fee associated therewith should be charged to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Please charge any other fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

  
For Applicants

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